

# Spectrometry



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Diamond Vogel Paint

**Part I: Overview of Business**

Founder Andrew Vogel was a Dutch immigrant who felt that the only paint good enough for the barns and homes in the extremes of the Midwest climate was paint he perfected himself. So, from a modest “workshop laboratory” in Orange City, Iowa, Diamond Vogel Paint company was born. Three generations, seven manufacturing facilities, 70 service centers and millions of gallon paint later, Diamond Vogel Paint maintains the values Andrew started. The company continues perfecting their own formulas, producing and distributing their own products, and servicing their customers with the kind of passion and commitment worthy of founder Andrew Vogel.

**Part II: Job Specifics**

Powder paint is one of the biggest areas of Diamond Vogel Paint Company and it has many interesting facets to it. Matching the color to the customers demand is the first, and most critical aspect of the powder paint. There are other physical tests such as gloss, thickness, particle size, cure temperature, and impact testing of the of the powder paint that the customer sets standards which must be met by Diamond Vogel.

**Part III: Introduce the Problem**

I am going to show the students three panels of different colors. We will then look at the spectrum of those colors presented via PowerPoint. We will discuss how to tell what the color is and how to determine the brightness of the color as well.

**Part IV: Background**

Students will be shown what different color spectrums look like. We will discuss how the shape of the curve can be used to identify the general color. We will practice looking at spectrums and predicting the color the spectrum represents.

**Part V: Business Solution**

At Diamond Vogel paint, they take a standard set by the customer and need to match that color with their powder. A sample is made which is visually compared to the standard. When the color is visually close, it is read into a color computer which shows a graph of the spectrum. The color computer helps make corrections to the formula to help make a match.

**Part VI: Student Solutions**

The students will be given a several spectrum to look at. They will need to determine the color the spectrum shows the sprayed panel to be. They will also need to determine if the color is one that is bright or dark, also based on the spectrum they examine.